

# The Role of Informatization in the Change of Higher School Tasks: the Impact on the Professional Teacher Competences

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**Abstract.** Last decade is characterized by the tendencies of the modern higher school development. This is based on the informatization of education. In this work, basing on didactics of higher school pedagogy a system of psychological and pedagogical characteristics for higher school teachers was created. Psychological, educational requirements for professional competence of university teachers are based on components of pedagogical skills of teachers of higher education institutions and absorb almost all of its functions, duties and skills, but increased usage of ICT determines the specification of the classification system of psychological and educational requirements for information and communication competence of the university teacher.

**Keywords.** TeachingMethodology, competence, distance education, technologies of distance education, tutor, listener, course of distance education, informative resource, network services

**Key terms.** Didactics, CompetenceFormationProcess, InformationCommunicationTechnology, TeachingMethodology

## 1 Introduction

In the conditions of the pedagogical paradigm updating, emergence and distribution of network technologies, and consequently, enrichment of personality aspects of modern teacher preparation in higher school, a large value is acquired by interpretation of the teacher's professional competence concept.

The problem explored by us in this article is concerned with how the informatization of education influences the requirements for professional competence of teaching at universities.

During the recent years, in Ukraine ICT development has been defined as one of the priorities. In 2007 the Parliament passed the Law "About the Basic Principles of information Society's development in Ukraine in 2007-2015" (№ 537-V of 9.01.2007), pursuant to the Action Plan has also been adopted. Both documents were designed to promote the development of information society and the introduction of

information technology as apriority direction of the state policy. The need for further development and implementation of ICT is confirmed, also, by a number of national documents, such as the Draft of National Education Strategy in Ukraine for 2012-2021 years CMU (Meeting of 11.09.2012), the Laws of Ukraine "About the conception of the national programme of informatization" (№ 75/98-VR of 04.02.1998) with amendments introduced according to the laws N 3421-IV (3421-15) of 09.02.2006, VVR, 2006, N 22, article 199, N 3610-VI (3610-17) of 07.07.2011).

Unfortunately, these intentions, mostly in the present time, are remaining on an embryonic stage, that is reflected in the low Ukrainian ratings of competitiveness and network readiness.

Implementation of informatization at the universities hasn't been explored fully yet. This topic opens up many opportunities for further studying and investigation: implementation of educational programs, websites, the use of network services, an invention of new forms, ways, exploring of university teachers potential at the new open education environments. Writing this article we set the following goals: exploring of the university teachers' professional competence; the definition and justification of psychological and educational requirements for information and communication competency of University teacher.

## 2 The Main Part of Our Research

In recent years, the term "tutor" became well-known, it gained a considerable popularity in higher education, giving ground in frequency of use only to the term "teacher". These notions are almost synonymous, which could cause some dubieties about the necessity of introducing the new foreign term. But, in fact, the token tutor expands the notion teacher, especially in the context of the gradual integration of Ukraine into the European educational space.

S. Goncharenko [4] notes that the term tutor (English tutor from Latin *tueor*, to observe, to care) – is a teacher-mentor in British "public schools", high forms of grammar schools and teachers colleges [4].

In modern educational paradigm, regardless of the learning forms, the principle about the student's importance was established, that fact illustrates a student as a dominant. According to this fact, teachers act as assistants, as friend, as mentor, who supports students in getting education. With the rapid growth of informational and communicational component of the educational process, particularly in the context of the implementation of distance studying, it is difficult to imagine a teacher, who just transmits the information to the listener, even if it is a video lecture. Teachers need to be a coordinator, facilitator, who "synthesizes and accompanying student's resources" [6], which has much bigger freedom of the choice (educational content, time, place, methods of education), compared with the traditional student.

We support the aspects of the network training's specific which is - pointed out in V.M. Kukhareno's and V.Y. Bykov's studios [5], which claim that the teacher-tutor should focus on his practice, doing his classes for the listener of the e-learning course.

However, working in the field of distance studying, the teacher communicates with the diverse contingent.

Each person is a personality, according to some needs, abilities and opportunities. That is why the teacher's task is to choose the best way of the studying process. They have to coordinate their activities (growth, educational content, methods, tools) with options of the audience potential or take responsibility for themselves, creating a new pace of studying. Also they should to select, a group of listeners who exactly overtake the course (it is not the fact that all students will be able to take this rate).

As the research is based on the condition, that the teachers of the higher educational institutions are studied for the implementation of the e-studying course, so we agree with S.S. Vitvytskaya's supposition [3] that teachers have to learn to perform the following functions: organizational (the head, the leader in the maze of the knowledge and skills); informational (the carrier of the last information); transformational (transformation the socially meaningful content of the knowledge to the act of the personal knowledge); orientational and regulative (the teacher's structure of the knowledge determines the structure of the student knowledge); catalytic (transformation the object of the education into the subject).

The teacher, who is not at the top level mastering pedagogy of higher education, it is difficult, in our view, to prepare for the implementation of distance learning in higher education.

According to A.I. Kuzmynskiy [7], the higher school teachers have some competence (the high professional competence, pedagogical competence, social and economic competences, communicative competence), have a high level of general culture and, also we can highlight especially important, in our mind, for the introduction of ICT competencies the functional responsibilities the universities' teachers, in particular. All these ingredients along with the pedagogical skills (except some components of the educational technology), outlined in the A.I. Kuzminskoho's works [7], form the basis of psycho-pedagogical portrait of the teacher, and transforming the system MDs we will get in the future - a distance studying tutor or teacher, who has information and communication competences, who is ready to work upon condition of a new paradigm of education. In particular the pedagogical skills include: moral and spiritual qualities, professional knowledge, social and pedagogical qualities, psychological and pedagogical skills, pedagogical technique.

Russian authors, as G. Adrionova [1], M.V. Vislobokova [11], V.P. Verzhbytskyy [2] say that the traditional teacher and teacher of the e-studying - are mutually different personalities with the different characteristics. We disagree with this opinion, because with the help of the teaching skills of higher school teachers (as one of the key characteristics of the higher school teacher) it was possible to form the teacher - oriented on the using of new teaching technologies, including ICT. The fact that many characteristics are really opposite, because they depend on the tasks set for the teacher and the student.

The most part of the scholars and teachers asserts [8, 9]: teacher - is a basis of the educational process, the most important component, that organizes the e-studying process and ensures its quality. V.M. Kukharenko [5] emphasizes the role of the tutor

in the e-studying system: "Any course requires the tutor, but a good course - requires skillful tutor".

Distance studying technologies that are introduced at the time of the rapid development of interactive technologies, absorb current dominant of educational paradigm: the activities of the teacher-tutor designed to organizing, promoting and supporting of the students' independent learning activities at the distance learning courses, which has the development of creativity as a basis, developing of searching abilities, analyzing and organizing information and rendition on the basis of the the right decisions' findings. In our opinion, to develop the creative abilities of the listeners can only the teacher, who also is a creative person.

In the context of the above statement is A.M. Eagle's saying [10] that the tutor – is a teacher of the high level, who is able to interact with the audience, producing new relaxed and fun lessons for all the. The researcher says that the tutor doesn't have to teach the audience, he has to maintain him as long as the student takes sufficient independence and competence.

The proof of this distribution is the work of the authors from the Problem Laboratory NAM NTU "KPI" [5], where the experience of the foreign researchers [12,13] is adapted to the Ukrainian Distance Learning System and where is outlined some tutor's responsibilities, according to two stages (development of the course and organization of the educational process). We have to note that in this case the tutor can be a user of already created e-studying course.

So systematizing the lined material, taking it as a basis, based on the generally accepted didactic principles, which are clearly defined in the A.I. Kuzminskiy's work [7], form the system of psychological and educational requirements for informational and communicational competences of the university's teacher.

Informational and communicational skills include the following components:

- To have at least one information-educational environment
- To know the range of services provided by the environment and technology of the handling these services;
- To know the basic principles of the telecommunication systems
- To know the specifics of the webinar, audio, video- teleconferencing, chats and forums;
- To know the rules of conducting (etiquette) during the interactive dialogue
- To know the specifics of working within formational resources (databases, information services)
- To be able to use the communication capabilities of computer' networks to organize fruitful communication between the participants of the educational process
- To make the organization and conducting of the telecommunication project
- To own and use network services in a professional activity

Didactic skills:

- To create and shape the course material for students of e-learning courses with the optimal (understandable, accessible, scientific) laying out the information to ensure personal, effective and independent from the listener's time and his working place
- To implement psycho-pedagogical monitoring (previous, current, interim, final)

- To manage the independent educational and cognitive activity of the students, to develop intellectual capabilities and to form the motives of the education
- To teach students the efficient and effective methods of independent activity in the educational process
- Constructive skills:
  - To integrate and combine full-time, part-time, external and distance learning
  - To create e-learning and /or correct an existing course, according to the educational process requirements
  - To adopt the effective types and forms of participants' activity of the e-studying/network educational process
  - To make the selection of the methods and means of education
  - To have the skills of the informational navigation
  - To plan the perspective stages for the management of the students group (small group)
  - To organize using the distance learning technologies of the individually-oriented approach to the audience
- Organizational skills:
  - To balance the demands of discipline with the students' needs
  - To demonstrate to the listeners their personal potentialities concerning to the provided educational information
  - To carry out a systematic discussion about the students needs for continuous improvement of the distance learning process
  - To provide the necessary support and assistance to the ENK students;
  - To organize and conduct network role games
  - To organize and manage the students' activity, in a small group, to create the optimal conditions for the development of their independence and competence and provide pedagogically effective activity of the listeners
  - To organize the participants' meetings of thee-studying process
- Cognitive skills:
  - To study physical, psychological and social components of special features of listeners' individual development, their needs, social self-determination etc.
  - To analyze individual styles cognitive-educational activity of listeners
  - To involve modern pedagogical (tutor) experience (learning in cooperation, small groups method, project method, different-level education, forming evaluation, re-search, explore methods etc) and creatively apply it in own tutor practice
  - To master new scientific information in the subject field, methods of teaching and use rationally in scientific-pedagogical work
  - To search for facts that stimulate activation of the cognitive activity of students in informational and educational environment and apply them
  - To generate new ideas and perspectives of tutor and student activities and apply modern technologies, forms and methods of distance learning
- Communicative skills:
  - To determine the feasibility of the relationship between subjects of educational process

- To coordinate interpersonal relationship between the students in the group or between students in small groups
- To prevent conflict situations that may arise in the process of e-studying, resolve them
- To apply collective activity, cooperate, determine common strategy of activity and prove its relevance, be able to admit own mistakes

Make simple, easy and tolerant communication with any age, social and ethnic categories of students.

Perceptive skills:

- To understand (by the look of students) incentives of activations of students' activity in information-educational environment and be able to apply such knowledge
- To be concerned with the inner world of the audience, understand their mental state. Observe special features of the independent activity of the student in an Information-educational environment during e-studying process.
- To improve directly the technology, information saturation, activity, depending on the needs of the group (the audience)

Suggestive skills:

- To master a method of forming a systematic and critical thinking
- To form reflection in students as a mean of evaluating their activities with the purpose of further improvement
- To affect (emotional and volitional aspect) students with forms, methods and means of e-studying to create in them a certain mental state, prompting them to definite actions

Applied skills:

- To possess additional hardware, software, psychological educational equipment
- To create Web Pages, publications, websites, blogs, wiki, etc.
- To have skills to program in specialized environments

Skills in psycho-technical sphere: knowingly and properly use acquisitions from psychology in field of applying network services.

### 3 Conclusion and Future Work

Psychological, educational requirements for professional competence of university teachers are based on components of pedagogical skills of teachers of higher education institutions and absorb almost all of its functions, duties and skills, but increased usage of ICT determines the specification of the classification system of psychological and educational requirements for information and communication competence of the university teacher.

According to the results, which we obtained during the research, we can outline some basic theoretical and empirical achievements of the author in the context of the study objectives:

Professional competence of teachers of higher education on condition of higher education tasks' changes and transition to the society of knowledge were outlined.

System of psycho-pedagogical requirements for information and communication competence of university lecturer was formed and explored. The system consists of a

list of skills: informative-communicative, didactic, constitutive, managerial, cognitive, communicative, perceptual, suggestive, applied and the skills of a psychotechnique sphere.

Prospects for further scientific research are seen in detailed usage of professional competence of university teachers in practical activities, including the usage of network services in teaching students of Humanitarian specialties.

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